Best Practices

Staying Safe *in the* Shipyard

The shipyard industrial environment produces continuous hazards. Here's a look at what some ships have done to mitigate these hazards.

USS *Princeton* (CG-59)

During a summertime, three-month restricted availability period, *Princeton's* biggest safety problem didn't come in the form of motorcycle or off-duty recreational vehicle *[e.g., dirt bikes, ATVs, etc.]* incidents as expected. It came in the form of alcohol-related incidents (ARIs). The ship saw a sharp rise in the number of alcohol-related incidents as the availability continued.

Princeton's safety team immediately embarked on two campaigns to reduce the number of ARIs. The first was an incentive program designed to reward the crew for consecutive days without an ARI. Based on the hull number, *Princeton* chose to reward the crew with a three-day weekend if all hands went 59 consecutive days without an ARI. Any such incident during the 59 days reset the counter, and the reason for the reset, minus names, was placed in the plan of the day to alert the crew.

The second campaign focused on providing more safe options to Sailors who found themselves under the influence of alcohol. After interviewing many crew members, *Princeton* developed the "Arrive Alive" program. The ship contracted with a local cab company to provide rides for Sailors who found themselves too drunk to drive. All hands were issued serialized cards with the cab company's name and phone number to keep and use in the event they were unable to drive. The cabs would take the Sailors back to the ship or to their homes. There were no negative repercussions from using the card; however, the member had to repay the cab fare to the ship and then was issued another serialized card.

This campaign decreased the number of ARIs from six during the first six months of the year—before the campaign started—to two during the last six months.

USS *Fort McHenry* (LSD-43)

Before starting a 10-week selected restricted availability (SRA), *Fort McHenry's* safety committee and safety council met to discuss ideas for maintaining a safe work environment. The ship implemented the following inspection and control measures:

- A different division was inspected weekly by senior members of the command, including the CO. This inspection focused on general safety, as well as electrical safety and damage control. Because of the extensive amount of preservation work taking place, the storage of hazmat also was scrutinized. These inspections and this focus on safety are a continuous process included in the ship's weekly division in the spotlight (DITS) program.
- The ship was divided into three zones, and each day, a member of the ship repair facility's (SRF's) safety department and *Fort McHenry's* safety officer or command duty officer (CDO) inspected a different zone. During the course of the week, all three zones were fully inspected twice. The discrepancies were recorded and corrected on the spot if possible. The list then was submitted to the quarterdeck, where the CDO mustered the duty department heads, and

A shipyard rigger assists in mounting a propeller to the No. 3 shaft aboard the *Nimitz*-class aircraft carrier USS *George Washington* (CVN-73) during the ship's planned incremental availability.

Navy photo by PH2 Glen M. Dennis

the remaining discrepancies were corrected. All these discrepancies were compiled and analyzed to aid in future prevention.

• As the SRA came to a close and contractors turned over spaces, the safety-committee members were given two specific items to inspect in their spaces daily. These areas included but were not limited to ladderbacks, scuttles/hatches and stanchions, nonskid strips, luminous tape, and eyewash stations. Discrepancies were noted and corrected.

• *Fort McHenry* formed a typhoon-response team. During the ship's SRA, five typhoons took aim on the ship's homeport of Sasebo, Japan. Because of various work packages involving the ship's main engine, generator, rudder seal, anchor chain, ballast tank, and topside areas, *Fort McHenry* was particularly vulnerable to high wind and seas. As each storm passed, the ship's leadership and subject-matter experts applied systematic ORM to their ever-changing material status and took preventive measures to safeguard the ship, assigned berthing barge, and crew. As a result, there were no personnel injuries, and cumulative damage from the five typhoons was limited to cosmetic damage from flying debris.

Fort McHenry subsequently completed the 10-week SRA with a mishap-free record.

USS *Carl Vinson* (CVN-70)

In 2006, *Carl Vinson* entered Northrop Grumman Newport News shipyard for a refueling complex overhaul (RCOH), which tested every tenet of comprehensive safety practices and demanded the creation of new policies to solve emerging issues.

Several steps were taken to prevent traffic crashes and to ensure the safety of the crew. Two all-hands,

high-impact, safety stand-downs were conducted that focused on DUI and suicide prevention, motor-vehicle safety, and home and recreational safety.

Carl Vinson implemented an aggressive motor-vehicle mishap-prevention program that was designed to educate the crew on the dangers of poor driving choices, including drinking and driving, speeding, and not wearing seat belts. "Fatal Vision" goggles were used to provide departmental and command-wide demonstrations that simulated the effects of alcohol on coordination and reaction time. A seat-belt "convincer" was brought on board that encouraged seat-belt use by demonstrating the force of a 10-mph accident. The safety department also undertook a "Click It or Ticket" campaign to increase seat-belt use during the high-travel summer months and the holiday season.

The ship sponsored a safety-culture workshop for approximately 100 junior Sailors to assess the effectiveness of the ship's safety initiatives and the overall safety climate. Inputs from this workshop were instrumental in developing a "free ride" program that enables crew members to get anonymous, free rides home from a local cab company if they are intoxicated or stranded because of alcohol consumption.

To reduce the risk of off-duty incidents, the ship also required all hands to complete operational and off-duty risk management (ORM) liberty checklists before taking leave, traveling, or starting extended holiday periods.

Compared to two previous RCOHs involving USS *Nimitz* and USS *Dwight D. Eisenhower*, Sailors aboard *Carl Vinson* had a substantially lower number of driving-while-intoxicated/under-the-influence events. Their totals were fewer than five (vice 20 to 40) per month. The ship had no fatalities attributed to motor-vehicle/motorcycle mishaps, and there were no permanently disabling injuries as the result of off-duty incidents.

USS *Ford* (FFG-54)

Once before entering the shipyard environment and twice after starting a 20-week extended drydock selected restricted availability (EDSRA), *Ford* held safety stand-downs.

The initial stand-down elevated crew awareness of shipyard risks and operational and off-duty risk management (ORM) strategies. All maintenance personnel were trained on the use and upkeep of PPE. Respiratory-protection-equipment fittings were verified for all maintenance personnel, and all hands received safety helmets and eye and hearing protection.

The second stand-down, held about halfway through the availability, focused on maintaining crew awareness and provided training on holiday and driving safety before a long liberty weekend. The third event, conducted after the EDSRA had been completed, centered on operations the crew hadn't done in five months *[e.g., underway watches and special evolutions]*, as well as driving safety.

While in the shipyard, *Ford* personnel conducted daily safety walkthroughs with the shipyard safety manager. Reports of hazards and concerns uncovered during these events were included in the daily 12 o'clock reports submitted to the CO. The shipyard safety manager also briefed the ship's supervisory personnel during each morning's production meeting, which occurred before the workday started. This brief included discussion of any unusual or changes in required precautions and significantly increased the safety awareness of both the crew and civilian workers.

Ford conducted complete audits of all tagout and work-authorization forms (WAFs) twice weekly and reported results to the CO. This action ensured that safety tags were not compromised during complex maintenance procedures or damaged during equipment removals. System experts from each department were assigned to a maintenance-information center for additional oversight of the tagouts and WAFs. As a result, supervisors were able to ensure proper personnel and safety measures were complete before the start of work. This strategy also ensured seamless coordination from one duty section to another, without loss of situational awareness. Because of these efforts, *Ford* had no tagout discrepancies during the EDSRA.

Resource:

- Safety in an Availability Shipyard Links (SIMAs/Repair Facilities, Government Offices, Shipyards), http://www.safetycenter.navy.mil/afloat/surface/shipyardlinks.htm

Find this symbol at the bottom of our main web page (http://www.safetycenter.navy.mil), and you're only a click away from seeing a categorical listing of all the best practices currently posted. Maybe you have a time-saver, a good idea, a brainstorm, or a proven program of your own you would like to share with shipmates. If so, just click on the submission form (also at the bottom of our main web page).